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April 14, 1999

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VIA HAND DELIVERY
Magalie Roman Salas, Esquire
Office of the Secretary
Federal Communications Commission
The Portals
445 Twelfth Street, S.W.
Room TW-A325
Washington, DC 20554

DOCKET FILE COPY ORIGINAL

Re: In the Matter of Amendment of Parts 2 and 25 of the Commission's Rules to Permit Operation of NGSO FSS Systems Co-Frequency with GSO and Terrestrial Systems in the Ku-Band Frequency Range and Amendment of the Commission's Rules to Authorize Subsidiary Terrestrial Use of the 12.2-12.7 GHz Band by Direct Broadcast Satellite Licensees and Their Affiliates, ET Docket No. 98-206, RM-9147, RM-9245

Dear Ms. Salas:

Transmitted herewith, on behalf of United States Satellite Broadcasting Company, Inc. ("USSB"), are an original and eight copies of its Reply Comments to the above-referenced Notice of Proposed Rulemaking. Also enclosed is a copy of the Reply Comments on diskette.

Should there be any questions, please communicate with the undersigned.

Very truly yours,

Marvin Rosenberg

Marvin Rosenberg
Counsel for United States Satellite
Broadcasting Company, Inc.

Enclosures
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Before the
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Amendment of Parts 2 and 25 of the	)	
Commission's Rules to Permit Operation	)	
of NGSO FSS Systems Co-Frequency with	)	
GSO and Terrestrial Systems in the	)	ET Docket No. 98-206
Ku-Band Frequency Range	)	RM-9147
and	)	RM-9245
Amendment of the Commission's Rules	)	
to Authorize Subsidiary Terrestrial Use	)	
of the 12.2-12.7 GHz Band by	)	
Direct Broadcast Satellite Licensees	)	
and Their Affiliates	)	

REPLY COMMENTS OF UNITED STATES SATELLITE BROADCASTING COMPANY, INC.

UNITED STATES SATELLITE
BROADCASTING COMPANY, INC.

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Its Counsel

April 14, 1999

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Amendment of Parts 2 and 25 of the	)	
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of the 12.2-12.7 GHz Band by	)	
Direct Broadcast Satellite Licensees	)	
and Their Affiliates	)	

REPLY COMMENTS OF
UNITED STATES SATELLITE BROADCASTING COMPANY, INC.

United States Satellite Broadcasting Company, Inc. ("USSB"), by its counsel, hereby submits these Reply Comments in response to the above-captioned *Notice of Proposed Rulemaking* ("*Notice*") released by the Commission on November 24, 1998.

Comments regarding the portion of the *Notice* that addresses Northpoint Technology's ("Northpoint") proposal to use the 12.2-12.7 GHz band to provide terrestrial services on a secondary basis were filed by numerous DBS licensees and other parties with interests in the 12.2.-12.7 GHz band, including USSB. Each respective Commenter, except for Northpoint, agrees with USSB that Northpoint's service can be provided in other frequency bands where spectrum has already been

allocated for high density terrestrial services.[1] Deployment of Northpoint's terrestrial service in bands other than 12.2-12.7 GHz serves the public interest by allowing the Commission to fulfill its mandate under Section 303(f) of the Act to prevent harmful interference to existing and future DBS services,[2] and by saving Commission resources which would be expended for making significant changes to the Commission's rules.

Northpoint's fundamental justification for needing access to the 12.2-12.7 GHz frequency band is based on the unfounded theory that, in order to be able to provide a service that is economically feasible, and therefore, competitive to cable, it must use commercially available equipment that has been developed for the provision of DBS service. Northpoint concedes that existing DBS equipment cannot be used without making certain modifications. For example, Northpoint estimates the cost to modify a DBS antenna will be at least $50 to $100 per dish.[3] After

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[1] *See, e.g.*, DIRECTV, Inc. Comments at p. 6 ("Northpoint has shown no particular reason why it must use the 12 GHz band . . . as opposed to other frequency bands that could be made available for its proposed secondary terrestrial operations"); EchoStar Comments at p. 9 ("ample other spectrum is available for Northpoint . . . and the Commission should not consider jeopardizing the integrity of the DBS spectrum."); SkyBridge Comments at p. 116 ("There is, quite simply, no technical or policy rationale that supports Northpoint's proposal, particularly given the fact there is considerable alternative spectrum (e.g., 2.5 GHz, 24 GHz, 28 GHz) available to accommodate Northpoint's broadband service plans).

[2] *See* 47 U.S.C. § 303(f). Northpoint correctly observes that Section 303(g) of the Act encourages the Commission to provide for the efficient use of the spectrum. *See* Northpoint Comments at p. 12-13. However, because the Commission concluded in the DBS proceedings that the public interest was served by designating DBS as the primary service in the 12.2-12.7 GHz frequency band, Northpoint's reliance on this statutory provision is misplaced. Having already determined after lengthy proceedings that DBS deserved priority status in the 12.2-12.7 GHz band, the Commission is obligated, by statute and under its rules, to protect the primary service in the band from interference.

[3] Northpoint Comments at n.35; However, Northpoint's Comments provide further evidence that it has not fully investigated the cost implications of either developing its own equipment or using commercially available DBS equipment in another band. *See* page 32, where Northpoint merely

careful investigation, Northpoint undoubtedly will find that it can offer its new service in an available band by adopting substantially the same modifications that are required for using the commercially available DBS equipment in the 12.2-12.7 GHz band, and at similar costs.

Additionally, Northpoint claims that in addition to delivering local television broadcast signals, it also will deliver high-speed Internet services.[4] Unfortunately, none of the existing DBS receivers currently in use have the capacity to accommodate broadband data service. Thus, even though use of existing DBS hardware is central to Northpoint's justification for needing access to the 12.2-12.7 GHz frequency band, to the extent that Northpoint intends to deliver broadband data service, it will be necessary for customers to have a non-DBS receiver.

Northpoint's claims that it needs access to the 12.2-12.7 GHz band in order to be able to purchase commercially available DBS low-noise block converters ("LNB"s) at competitive prices is entirely baseless. At this time, LNB's for different frequencies are available worldwide in sufficient quantities and at prices comparable to LNB's designed to work with the the 12.2-12.7 GHz frequency band.

Finally, it is important to recognize that the input frequency for all DBS receivers generally ranges from 950-1450 MHz, and therefore, is not dependent on the frequency band in which the service is offered. Thus, the same DBS receiver will be used for receiving Northpoint service, irrespective of the frequency band in

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speculates that, "[t]here *could* be substantial development cost for exploring and developing new equipment to use in another band." (emphasis added).

[4] Northpoint Comments at p.2-3.

which the service is offered. The only piece of equipment that is dependent on the particular frequency band used is the low-noise block converter. However, as explained above, LNBs for different frequencies are readily available at comparable costs. The foregoing facts prove that Northpoint's fundamental argument for needing access to the DBS band is unsupportable.

In order to promote competition among multichannel video programmers, both Congress and the Commission have taken steps to limit restrictions that impair the installation, maintenance, or use of devices used to receive certain video programming services.[5] The current rule, known as the OTARD rule, generally prohibits both governmental and nongovernmental restrictions on the installation of DBS antennas that are one meter or less in diameter.[6]

In recognizing that the Northpoint system will cause interference under certain conditions, Northpoint proposes antenna shielding as one of its most effective mitigation techniques. It is anticipated that in many situations where interference is present, the size of the shielding will, by necessity, be very large. This, in turn, will substantially increase the size of the antenna. A cursory reading of the OTARD rule shows that the Commission was quite concerned about antenna size when it proposed the rule. It is obvious that the Commission did not anticipate some unspecified size of antenna shielding when the rule was made. Therefore, in the event that the Commission should permit Northpoint to provide terrestrial

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[5] *See, e.g.*, 47 U.S.C. § 207 and 47 C.F.R. § 1.4000.

[6] *See* 47 C.F.R. § 1.4000.

service on a secondary basis in the DBS band, it will be necessary for the Commission to amend the OTARD rule to accommodate one of Northpoint's principal mitigation techniques.

Upon examination of Northpoint's Austin, Texas test results, DIRECTV, Inc. ("DIRECTV") and EchoStar Communications Corporation ("EchoStar"), in their respective Comments, present overwhelming evidence to show that, contrary to Northpoint's sweeping assertions,[7] deployment of Northpoint's technology in the 12.2-12.7 GHz band is certain to cause harmful interference to DBS users. Since filing its Comments in this proceeding, USSB's engineer has examined Northpoint's test results and concurs with the technical concerns expressed by DIRECTV and EchoStar.

As Northpoint acknowledged, it requested input from both USSB and DIRECTV when preparing the plan for the Austin, Texas test.[8] Due to USSB's parent company's considerable electronic news gathering experience utilizing microwave technology and its acquired knowledge about the reflectability of microwave signals, USSB's greatest concern about Northpoint's proposed system has been the potential for interference from reflections off of buildings and other objects that were either in or close to the DBS main beam transmission.

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[7] *See, e.g.*, Northpoint Comments at p. 3 ("technology can coexist in the 12.2-12.7 GHz band with DBS . . . on a non-interference basis); Northpoint Comments at p. 4 ("[Northpoint can re-use the 12.2-12.7 GHz spectrum in different local markets without causing harmful interference to existing DBS services"; Northpoint Comments at p. 6 ("Northpoint's technology works and the Austin testing demonstrated that the Northpoint technology does not cause harmful interference to DBS.").

[8] Northpoint Comments at p. 6.

At the time the test plan was prepared, USSB shared its concerns with Northpoint and insisted that Northpoint conduct two key tests – reflection testing and testing with bandwidths comparable to what Northpoint actually intended to use. Northpoint chose not to conduct tests using comparable bandwidths.

Further, although Northpoint looked for reflections from buildings, it did not specifically test, as requested by USSB, for the impact of the reflection from a building when the DBS main beam transmission passed near the building and the reflection was in or near the center of the DBS main beam transmission.

Northpoint's Austin test results showed that nine out of thirty test sites recovered a Northpoint picture from the reflections off of buildings. Northpoint claimed that such reflections could be useful for receiving the Northpoint signal in areas where the direct path was obstructed. Of course the concern for DBS is that if enough energy is present to produce a Northpoint picture from a reflection, then clearly there is enough energy present to significantly degrade or obliterate a DBS picture at the location when the reflection comes close to the main beam of the DBS transmission. The foregoing results provide direct evidence that Northpoint technology causes harmful interference to DBS service.

Perhaps most disturbing to USSB and other Commenters is Northpoint's apparent lack of understanding of the fundamentals of DBS digital signal transmission. The DBS systems have spent enormous amounts of money to research and design their systems with sufficient received signal margin to enable the service to tolerate the effects of rain, reflections, and to compensate for the fact

that over half of the DBS antennas are consumer installed. Rather than understanding the operational significance and necessity for the signal margins, Northpoint wrongly and selfishly assumes that consumption of the signal margin by its service will have no consequence on the DBS link availability. In other words, Northpoint completely disregards the fact that signal degradation constitutes interference and only accounts for interference when a total loss of picture occurs. If these margins were not required to ensure satisfactory consumer performance, DBS operators like USSB, DIRECTV, and EchoStar would not have expended the resources on such high power satellites. Instead, the DBS operators could have saved millions of dollars and purchased lower powered satellites.

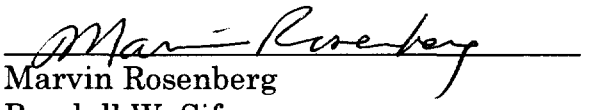
When acting on any rulemaking proceeding, the Commission must consider the practical public interest consequences of its actions. If the deployment of a new service in the DBS band results in the degradation of existing services to the American public, there likely will be substantial public and political discord.

Northpoint simply has not presented a convincing argument for putting existing and future DBS customers at risk. A significant loss of the high quality DBS service, which the American public has increasingly chosen to subscribe to and has become accustomed to, will result if the Commission decides to change its rules to permit Northpoint to provide terrestrial service on a secondary basis in the DBS band. The viewer disruption and dissatisfaction that will result from the deployment of Northpoint's technology in the DBS band will not be offset by any benefits that might arise from Northpoint's service offering.

The record in this proceeding provides no support for changes to the Commission's rules that would permit the deployment of a terrestrial service in the 12.2-12.7 GHz frequency band. Therefore, USSB respectfully requests the Commission to deny Northpoint's request to deploy its terrestrial service in the 12.2-12.7 GHz frequency band, or alternatively, to direct Northpoint to identify alternative bands in which to deploy its new service.

Respectfully submitted,

UNITED STATES SATELLITE BROADCASTING COMPANY, INC.



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April 14, 1999

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